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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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Patrick Duvaut

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EXAMINER

BOLOURCHI, NADER

ART UNIT

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2611

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/714,660	Applicant(s) DUVAUT ET AL.	
	Examiner NADER BOLOURCHI	Art Unit 2611	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 is/are rejected.
- 7) ☒ Claim(s) 10-15 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 18 November 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Applicant's claim for the benefit of a prior-filed application under 35 U.S.C. 119(e) or under 35 U.S.C. 120, 121, or 365(c) is acknowledged.

Information Disclosure Statement

2. The information disclosure statement (IDS) submitted on 8/23/2004 have been considered and made of record by the examiner.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a) because they fail to show Step 1, Step 2, and step 3 smart DSL concept for LDSL as described in the specification (see pars. 63, 67, and 71) . Any structural detail that is essential for a proper understanding of the disclosed invention should be shown in the drawing. MPEP § 608.02(d). Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for

consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the method for implementing DSL for LDSL, as claimed in claims 1-9 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement-drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet"

pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Specification

5. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.
6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed. It is suggested the title to include phrase "LDSL", as it has already being used in abstract and the specification.
7. The disclosure is objected to because of the following informalities:

The specification includes numerous abbreviations with improper format. This includes, but not limited to, SHDSL, AMI, SBC, and FDD of par. 8, 13, and 16. It is suggested to use the long phrase equivalent, following with the abbreviation in the parentheses, for first incident of each abbreviation.

The recitation "SHDSL", "AMI", "SBC", and "FDD" in par. 8, 13, and 16 seem to be improper, because these acronyms have not been introduced previously. It is suggested the first instance of any abbreviation in the disclosure appear in the parenthesis preceded by its definition, e.g., "a decision feedback equalizer (DFE)"

Appropriate correction is required.

Claim Objections

8. Claim 1 is objected to because of the following informalities: the recitation "DSL", "LDL" in claim 1 seem to be improper, because these acronyms have not been introduced previously. It is suggested the abbreviations in the claim appear in the parenthesis preceded by its definition, e.g., "a decision feedback equalizer (DFE)"

Appropriate correction is required.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

9. Claims 1 and 9-15 are rejected under 35 U.S.C. § 101 because the claimed invention is directed to non-statutory subject matter. Based on Supreme Court

precedent (See *Diamond v. Diehr*, 450 U.S. 175, 184 (1981); *Parker v. Flook*, 437 U.S. 584, 588 n.9 (1978); *Gottschalk v. Benson*, 409 U.S. 63, 70 (1972); *Cochrane v. Deener*, 94 U.S. 780, 787-88 (1876)) and recent Federal Circuit decisions, a § 101 process must (1) be tied to another statutory class (such as a particular apparatus) or (2) transform underlying subject matter (such as an article or materials) to a different state or thing (The Supreme Court recognized that this test is not necessarily fixed or permanent and may evolve with technological advances. *Gottschalk v. Benson*, 409 U.S. 63, 71 (1972), http://www.uspto.gov/web/offices/pac/dapp/opla/preognotice/section_101_05_15_2008.pdf).

Claims 1 and 9-15 are rejected because they do not positively recite the other statutory class (the thing or product) to which it is tied, for example by identifying the apparatus that accomplishes the method steps, or positively recite the subject matter that is being transformed, for example by identifying the material that is being changed to a different state (See MPEP § 2106.IV.B: Determine Whether the Claimed Invention Falls Within An Enumerated Statutory Category). Therefore, the claims *** are being construed as software which is not considered a patentable statutory class of invention.

10. Claims 2-8 are rejected due to their dependency to rejected claim 1.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

11. Claims 1-3 and 5-9 are rejected under 35 U.S.C. 102(e) as being anticipated by Darveau et al. (US 6,760,383).

Regarding claim 1, Darveau et al. disclose a method for implementing smart DSL (both Asynchronous and synchronous DSL recited as ADSL and SDSL in col.2: line 32-35) for LDSL systems (last 3 lines of Abstract), the method comprising: selecting a spectral mask (different masks defined in Figs. 7-9) based upon performance criteria (“...the various modulation densities...in Fig. 7 permit a reduction in data rate in order to increase the distance...” in col. 7: lines 28-48); and activating the selected spectral mask based at least one of customer premise or central office capabilities (“Figs. 7-9 are...SDSL signals...over telephone grade twisted copper pairs...” in col. 7: lines 9-13; Examiner notes that the telephone twisted copper pairs are used to connect DTU-C of central office to DTU-R of customer premises, as shown in Fig. 1, and described in col. 4: lines 1-21);

Regarding claim 2, Darveau et al. disclose as stated in rejection of claim 1 above.

Furthermore, Darveau et al. disclose that selecting the spectral mask is performed manually ("the selection of signal power spectral densities...For compatibility is set to -40 dBm/Hz in...upstream...and -38 dBm/Hz in...upstream" in col. 6: lines 28-44: examiner notes that such assignment can be done manually by an operator or automatically, e.g., using a look-up table, which is well known in the art)

Regarding claim 3, Darveau et al. disclose as stated in rejection of claim 1 above.

Furthermore, Darveau et al. disclose that selecting the spectral mask is performed automatically ("the selection of signal power spectral densities...For compatibility is set to -40 dBm/Hz in...upstream...and -38 dBm/Hz in...upstream" in col. 6: lines 28-44: examiner notes that such assignment can be done manually by an operator or automatically, e.g., using a look-up table, which is well known in the art)

Regarding claim 5, Darveau et al. disclose as stated in rejection of claim 3 above.

Darveau does not disclose that automatic selection of a the spectral mask is performed by a many tests procedure performed during a training period. However, use of training period to perform many tests on DSL is well known in the art.

Regarding claim 6, Darveau et al. disclose as stated in rejection of claim 1 above.

Furthermore, that activating the selected spectral mask is accomplished by a customer premises equipment decision ("The provision of the data services from a central

Art Unit: 2611

office...is well known... DTU-Cs...at a central office...communicates with a plurality of ...DTU-R...at customer premises” in col. 3: line 66 to col. 4: line 13; Examiner notes that such provision includes activating spectral mask).

Regarding claim 7, Darveau et al. disclose as stated in rejection of claim 1 above.

Furthermore, Darveau et al. disclose that activating the selected spectral mask is accomplished by a central office decision (“The provision of the data services from a central office...is well known...” in col. 3: line 66 to col. 4: line 13; Examiner notes that such provision includes activating spectral mask)

Regarding claim 8, Darveau et al. disclose as stated in rejection of claim 1 above.

Furthermore, Darveau et al. disclose that activating the selected spectral mask is accomplished by a central office decision that overrules a customer premises decision (“...in the provision of ...services...DTU-Cs...at a central office...communicate with a plurality of ...DTU-R...at customer premises” in col. 3: line 66 to col. 4: line 13, which emphasizes the decision is made by central office DTU-C is used by customer premises DTU-R, which obviously means it overrules any decision made by customer premises DTU-R)

Regarding claim 9, Darveau et al. disclose as stated in rejection of claim 1 above.

Furthermore, Darveau et al. disclose selecting a spectral mask further comprises:

selecting a spectral mask from a number of masks (different masks defined in Figs. 7-9; Examiner notes that mask could be up or down streams).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

13. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable over Darveau et al. (US 6,760,383) in view of Kamali et al. (US 6668041 B2).

Art Unit: 2611

Regarding claim 4, Darveau et al. disclose as stated in rejection of claim 3 above.

Darveau et al. do not disclose that automatic selection of a the spectral mask is performed by line probing.

Kamali et al. disclose an automatic selection using line probing (Fig. 5; col. 7: lines 19-42). It would have been obvious to one of the ordinary skills in the art, at the time the invention was made, to combine teaching of Darveau et al. with Kamali et al. in order to determine if the line qualifies for DSL services as suggested by Kamali et al. (col. 1: lines 58-67), including use of the spectral masks on the line.

Allowable Subject Matter

14. Claim 10-15 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

15. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Barrass (US 2006/0163949) and Duvaut et al. (US 20040218667 A1).

Contact Information

16. Any inquiry concerning this communication or earlier communications from the examiner should be directed to NADER BOLOURCHI whose telephone number is (571)272-8064. The examiner can normally be reached on M-F.

17. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mohammad Ghayour can be reached on 571-272-3021. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

18. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at (866) 217-9197 (toll-free).

/Nader Bolourchi/
Examiner, Art Unit 2611

/David C. Payne/
Supervisory Patent Examiner, Art Unit 2611